

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1. (Currently Amended) A method for processing a packet to transmit on a network in a host system including a plurality of network adaptors, comprising:

receiving at a receiving first network adaptor a packet;

performing implementing, within the first receiving network adaptor, a load balancing algorithm operations to select one of the network adaptor adaptors to transmit the received packet; and

if the determined selected network adaptor is [[a]] not the receiving second network adaptor, then forwarding, with the first receiving network adaptor, the received packet to the second selected network adaptor.

2. (Currently Amended) The method of claim 1, further comprising:

determining, with the first receiving network adaptor, whether the first receiving network adaptor is a primary network adaptor or a secondary network adaptor; and

transmitting, with the first receiving network adaptor, the received packet over [[a]] the network if the first receiving network adaptor is the secondary network adaptor, wherein the first network adaptor performs the load balancing algorithm implemented in the receiving network adaptor selects one of the network adaptors operations if in response to determining that the first receiving network adaptor is the primary network adaptor.

3. (Currently Amended) The method of claim 2, wherein only the load balancing algorithm operations are only performed implemented in the primary network adaptor selects one of the network adaptors.

4. (Currently Amended) The method of claim 1, wherein performing the load balancing algorithm selects one of the network adaptors by operations comprises:

determining selecting one of the network adaptor adaptors as a function of a destination network address to which the received packet is to be transmitted over the network.

5. (Original) The method of claim 4, wherein the network address comprises one of an Internet Protocol address and Fibre Channel address.

6. (Currently Amended) The method of claim 5, wherein determining selecting one network adaptor as the function of the target network address comprises using a hash algorithm to select one network adaptor based on the target network address.

7. (Currently Amended) The method of claim 1, wherein performing the load balancing operations algorithm further performs comprises:

determining one network adaptor based on a relative load of each of the network adaptors.

8. (Currently Amended) A method implemented in a device driver executing in a host system for processing a packet to transmit on a network, wherein the host includes a plurality of network adaptors, and wherein the device driver performs comprising:

receiving a packet;

determining a primary network adaptor comprising one of a plurality of network adaptors, wherein the network adaptors include the primary network adaptor and at least one secondary network adaptor; and

initiating transmission of the packet to the one network adaptor designated as a primary network adaptor, wherein the primary network adaptor is capable of performing implements a load balancing operations algorithm to determine select one of the primary or secondary network adaptor adaptors to transmit the received packet and, in response to the load balancing algorithm selecting one secondary network adaptor, the primary network adaptor redirects redirect the packet to another one of the at least one secondary network adaptor adaptors to transmit the packet.

9. (Original) The method of claim 8, wherein the device driver does not perform load balancing operations when selecting one of the plurality of network adaptors to receive the packet.

10. (Original) The method of claim 8, wherein the device driver further performs:
detecting a failure of one network adaptor designated as the primary network adaptor;
determining an available network adaptor to function as the primary network adaptor,
wherein subsequently received packets are transmitted to the determined network adaptor;
configuring a register within the determined network adaptor to cause the determined
network adaptor to operate as the primary network adaptor and perform load balancing
operations.

11. (Currently Amended) A method implemented in a device driver executing in a host system for processing a packet to transmit on a network, wherein the host includes a plurality of network adaptors, and wherein the device driver performs:

receiving a packet;
determining a primary network adaptor comprising one of network adaptors, wherein the network adaptors include the primary network adaptor and at least one secondary network adaptor; and
initiating transmission of the packet to [[one]] the primary network adaptor designated as a primary network adaptor, wherein the primary network adaptor is capable of performing implements a load balancing operations algorithm to determine select one of the network adaptor adaptors to transmit the received packet and, in response to the load balancing algorithm selecting one secondary network adaptor, the primary network adaptor redirects redirect the packet to one of the at least one secondary another network adaptor adaptors to transmit the packet.

12. (Original) The method of claim 11, wherein the device driver does not perform load balancing operations when selecting one of the plurality of network adaptors to receive the packet.

13. (Original) The method of claim 11, wherein the device driver further performs:
detecting a failure of one network adaptor designated as the primary network adaptor;
determining an available network adaptor to function as the primary network adaptor,
wherein subsequently received packets are transmitted to the determined network adaptor; and

configuring a register within the determined network adaptor to cause the determined network adaptor to operate as the primary network adaptor and perform load balancing operations.

14. (Currently Amended) A network adaptor in a host system in communication with [[an]] at least one external network adaptor in the host system, comprising:

an interface to interface with at least one external network adaptor;
control logic to cause the network adaptor to perform operations, the operations comprising:

[[(i)]] receive a packet;

[[(ii)]] implement perform a load balancing algorithm operations to select one of the network adaptor adaptors in the host system to transmit the received packet; and

[[(iii)]] if the determined selected network adaptor is one of the at least one external network adaptor adaptors, then forwarding forward the received packet to the selected external network adaptor.

15. (Currently Amended) The network adaptor of claim 14, wherein the operations caused by the control logic further comprise:

determine whether the network adaptor is a primary network adaptor or a secondary network adaptor; and

initiating transmission of the received packet over a network if the network adaptor is the secondary network adaptor, wherein the load balancing operations algorithm selects one of the network adaptor and the external network adaptors in response to determining that are performed if the network adaptor is the primary network adaptor.

16. (Currently Amended) The network adaptor of claim 14, wherein the load balancing operations algorithm further performs comprise:

determine select one network adaptor as a function of a destination network address to which the received packet is to be transmitted over the network.

17. (Currently Amended) The network adaptor of claim 16, wherein to determine select one network adaptor as the function of the target network address comprises using a hash algorithm to select one network adaptor based on the target network address.

18. (Currently Amended) The network adaptor of claim 14, wherein the load balancing algorithm further performs operations comprise:
determine one network adaptor based on a relative load of each of the network adaptors.

19. (Currently Amended) The method network adaptor of claim 14, wherein the packets are coded using the Internet Protocol (IP).

20. (Currently Amended) A system coupled to a network and data storage, comprising:
a processor;
a storage controller managing Input/Output (I/O) access to the data storage;
a plurality of network adaptors capable of transmitting and receiving data on the network;
a device driver, executed by the processor, to perform operations, the operations comprising:

[[(i)]] receive a packet;
determine a primary network adaptor comprising one of a plurality of network adaptors, wherein the network adaptors include the primary network adaptor and at least one secondary network adaptor; and

[[(ii)]] initiate transmission of the packet to one network adaptor designated as a the primary network adaptor, wherein the primary network adaptor is capable of performing implements a load balancing operations algorithm to select one of the primary or secondary network adaptor adaptors to transmit the received packet and, in response to the load balancing algorithm selecting one secondary network adaptor, the primary network adaptor redirects forward the packet to at least one of the secondary another network adaptor adaptors to transmit the packet.

21. (Original) The system of claim 20, wherein the device driver does not perform load balancing operations when selecting one of the plurality of network adaptors to receive the packet.

22. (Original) The system of claim 20, wherein the device driver operations further comprise:

detect a failure of one network adaptor designated as the primary network adaptor;
determine an available network adaptor to function as the primary network adaptor,
wherein subsequently received packets are transmitted to the determined network adaptor; and
configure a register within the determined network adaptor to cause the determined
network adaptor to operate as the primary network adaptor and perform load balancing
operations.

23. (Original) The system of claim 20, wherein the data storage comprises a magnetic storage media.

24. (Canceled)

25. (Currently Amended) An article of manufacture for processing a packet to transmit on a network in a host system including a plurality of network adaptors, wherein the article of manufacture causes operations to be performed, the operations comprising:

receiving at a first receiving network adaptor a packet;
implementing performing, within the first receiving network adaptor, a load balancing algorithm operations to select one of the network adaptor adaptors to transmit the received packet; and

if the determined selected network adaptor is a second not the receiving network adaptor, then forwarding, with the first receiving network adaptor, the received packet to the second selected network adaptor.

26. (Currently Amended) The article of manufacture of claim 25, wherein the operations further comprise:

determining, with the first receiving network adaptor, whether the first receiving network adaptor is a primary network adaptor or a secondary network adaptor; and

initiating a transmission, with the first receiving network adaptor, of the received packet over [[a]] the network if the first receiving network adaptor is the secondary network adaptor, wherein the first network adaptor performs the load balancing operations algorithm implemented in the receiving network adaptor selects one of the network adaptors if the first if in response to determining that receiving network adaptor is the primary network adaptor.

27. (Currently Amended) The article of manufacture of claim 26, wherein only the load balancing algorithm operations are only performed implemented in the primary network adaptor selects one of the network adaptors.

28. (Currently Amended) The article of manufacture of claim 25, wherein performing the load balancing operations comprises algorithm selects one for the first and second network adaptors by:

determining selecting one of the network adaptor adaptors as a function of a destination network address to which the received packet is to be transmitted over the network.

29. (Currently Amended) The article of manufacture of claim 27, wherein determining selecting one network adaptor as the function of the target network address comprises using a hash algorithm to select one network adaptor based on the target network address.

30. (Currently Amended) The article of manufacture of claim 24, wherein performing the load balancing algorithm further performs operations comprises:

determining one network adaptor based on a relative load of each of the network adaptors.

31. (Currently Amended) An article of manufacture for processing a packet to transmit on a network, in a host that includes a plurality of network adaptors, wherein the article of manufacture causes operations to be performed, the operations comprising:

receiving a packet;

determining a primary network adaptor comprising one of a plurality of network adaptors, wherein the network adaptors include the primary network adaptor and at least one secondary network adaptor; and

initiating transmission of the packet to [[one]] the primary network adaptor designated as a primary network adaptor, wherein the primary network adaptor is capable of performing implements a load balancing operations algorithm to determine select one of the primary or secondary network adaptor adaptors to transmit the received packet and, in response to the load balancing algorithm selecting one secondary network adaptor, the primary network adaptor redirects redirect the packet to the secondary another network adaptor to transmit the packet.

32. (Original) The article of manufacture of claim 31, wherein the load balancing operations are not performed when selecting one of the plurality of network adaptors to receive the packet.

33. (Original) The article of manufacture of claim 31, wherein the operations further comprise:

detecting a failure of one network adaptor designated as the primary network adaptor;
determining an available network adaptor to function as the primary network adaptor, wherein subsequently received packets are transmitted to the determined network adaptor; and
configuring a register within the determined network adaptor to cause the determined network adaptor to operate as the primary network adaptor and perform load balancing operations.